

**Notice of Allowability**

Application No.

10/782,909

Examiner

Ngoclan T. Mai

Applicant(s)

SHIMODA ET AL.

Art Unit

1742

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/2/07.
2. ☒ The allowed claim(s) is/are 3 and 4.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 4/30/07
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 6/6/06, 9/14/05, 5/24/04.

### DETAILED ACTION

1. Applicant's election of group II (claims 3 and 4) in the reply filed on 2/2/07 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 3-4 are allowed.
3. This application is in condition for allowance except for the presence of claims 1-2 and 5-7 directed to invention non-elected without traverse. Accordingly, claims 1-2 and 5-7 have been cancelled.

### REASONS FOR ALLOWANCE

4. The following is an examiner's statement of reasons for allowance:

U.S. Patent No. 6,379,845 teaches producing a conductive layer composed of a collection of nickel particles on a surface of a framework of a core by depositing on the surface of the framework nickel from an aqueous solution containing nickel ions employing a reducing agent containing titanium compounds, wherein the reducing agent is a mixture of titanium (III) chloride, titanium (IV) chloride and citric acid, see claims 13-14. The patent discloses among titanium ions, only trivalent ions act as a reducing agent and when only trivalent are dissolved in an aqueous solution, hydrolysis occurs and form precipitation through titanium hydroxide; however when quadrivalent titanium is mixed with trivalent with ratio of 4% or more :100% , the formation of precipitation can be suppressed by the stabilizing effect produced by the mutual ion exchange between the trivalent and quadrivalent, col. 7, l. 53-60.

Publication 2004/0058138 teaches making magnetic particles by reducing metal ions in an aqueous solution with the use of a reducing agent, wherein when the trivalent titanium ions ( $\text{Ti}^{3+}$ ) are preferably employed, [0083] and [0087]. The publication also discloses when the trivalent titanium is used as the reducing agent, tetravalent titanium ions resulting from oxidation of the trivalent titanium ions in the aqueous solution are electrically reduced to trivalent after the preparation of the magnetic particles for repeated regeneration of the aqueous solution [0088].

EP 1 120 181 discloses employing complexing agent and trivalent titanium compound as a reducing agent in fine alloy powder production method, wherein the amount of reducing agent to be contained in the aqueous solution containing is not restricted however if titanium trichloride is to be used in the form of a dilute hydrochloric acid solution, the molar concentration of titanium trichloride in the solution is preferably adjusted to be one or two times the molar concentration of the metal ions to be deposited, [0034] and [0035].

None of the above prior art teach or suggest or make obvious the method wherein in the aqueous solution before the reaction starts, the concentration of Ni ions and the concentration of the trivalent titanium ion satisfy  $\text{Ti}^{3+} \geq 2.5 \times \text{Ni}$  and the concentration of the trivalent titanium ions ( $\text{Ti}^{3+}$ ) to the concentration of the tetravalent titanium ions ( $\text{Ti}^{4+}$ ) satisfy  $0.15 \leq \text{Ti}^{3+}/\text{Ti}^{4+} \leq 30$  recited by the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### EXAMINER'S AMENDMENT

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's attorney Mr. Stephen A. Becker on April 30, 2007.

Per MPEP 1302.04 change the title to read as follows:

--Method of Manufacturing Chain-structure Metal Powder. --

The application has been amended as follows: change the abstract as follows:

-- A method of manufacturing the chain-structure metal powder comprises precipitating a metal powder by a reaction performed in an aqueous solution in which nickel ions, complex ions, and titanium ions containing trivalent titanium ions (Ti<sup>3+</sup>) and tetravalent titanium ions (Ti<sup>4+</sup>) are present. --

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

n.m.

  
ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700